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9.4 MANAGEMENT OF DREDGES FOR HABITAT PROTECTION[4]

I. ISSUE

How does North Carolina manage scallop dredging to minimize effects on the habitat?

II. BACKGROUND

Numerous studies have been conducted on the effects of mobile fishing gear on the benthos. These studies include effects of gear such as scallop dredges, oyster dredges, hydraulic clam dredges and clam trawls, beam trawls and otter trawls. The impacts of these different gears have been studied on habitat types ranging from flat sand and mud bottoms to structured habitats such as piled boulders, live bottom, seagrass, kelp beds and coral reefs (Dorsey and Pederson 1998)

Rate of recovery for areas that are disturbed by bottom fishing gears are dependent on the habitat type. Those areas of stable habitat such as hard bottom, inhabited by low-mobility, long-lived and slow-growing species have the slowest recovery rates while those habitats that are constantly disturbed and are inhabited by fast-growing, short-lived species are much quicker to recover. These latter areas tend to be populated by opportunistic species that can recolonize quickly. Examples of these types of habitats are shallow sandy environments that are constantly disturbed by storm events and high tidal flow (NRC 2002).

Dredging is a bottom disturbing fishing gear and affects shell bottom, SAV and soft bottom habitats where it occurs. These critical habitats provide commercially and recreationally valuable fish and shellfish species with food resources, living space, and protection from predators during part of or all of their life cycle. Dredging alters these habitats by reducing structure, changing sediment size and distribution, and increasing turbidity. This in turn affects ecosystem processes such as growth of primary producers (algae and plants), nutrient regeneration, growth of secondary producers (organisms that consume other organisms), and the character of the feeding relationships of organisms within the ecosystem (the food web).

[4] Presented to the Bay Scallop Advisory Committee on May 15, 2006.
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